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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/991,226

11/16/2001

Vladimir Vaganov

MS06

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7590

03/29/2004

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EXAMINER

LEE, HWA S

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/991,226

Applicant(s)

VAGANOV ET AL.

Examiner

Andrew H. Lee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claim 21 is objected to because of the following informalities: The third line recites "the second component." Since Applicant has shown consistency in using "the second photonic component," it will be assumed that "the second component" is "the second photonic component." Appropriate correction is required.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1, 2, 4, 10-12, 16, 19, 22-31, and 35** are rejected under 35 U.S.C. 102(b) as being anticipated by Nobuyoshi (Patent Abstracts of Japan 02245711).

With regards to claims 1, 22, 30, and 31, Nobuyoshi shows a feature for positioning an optical fiber to an optical semiconductor chip comprising:

a first photonic component (6,7,8 or 1,2,4), the first photonic component having a first housing (8 or 4), the first housing having a partially spherical surface for providing mechanical contact with the second component; and

a second photonic component (1,2,4 or 6,7,8), the second photonic component having a second housing (4 or 8), the second housing having a contact surface, the

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contact surface for providing mechanical contact with the partially spherical surface along at least one circular contact line, whereby the feature enables the alignment and affixing of the first photonic component with the second photonic component while maintaining mechanical contact of the first photonic component with the second photonic component (last sentence of the Abstract).

With regards to **claim 2**, the first photonic component (6,7,8) is substantially symmetric with respect to an optical axis of the first component (6,7,8).

With regards to **claims 4 and 5**, the photonic component (1,2,3,4) is asymmetric with respect to at least one optical axis of the other photonic component.

With regards to **claims 10, 12, 23, and 25**, the first photonic component comprises an optical fiber.

With regards to **claims 11 and 24**, the second photonic component comprises a laser, LED, or photodiode (optical semiconductor chip).

With regards to **claim 16**, the second housing has a thinned edge (figure d).

With regards to **claims 19 and 35**, the first photonic component is affixed to the second photonic component by welding (Abstract).

With regards to **claim 26**, Nobuyoshi shows a feature for positioning an optical fiber to an optical semiconductor chip comprising:

a first photonic component (8 or 1), the first photonic component having a domed wall (8 or 4), the domed wall having a partially spherical convex surface for providing mechanical contact with the second component; and

a second photonic component (1 or 8), the second photonic component having a second housing (4 or 8), the second housing having a partially spherical concave surface,

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the partially spherical concave contact surface for providing mechanical contact of a contact area of the partially spherical concave contact surface with the partially spherical convex surface of the domed wall, whereby the feature enables the alignment and affixing of the first photonic component with the second photonic component while maintaining mechanical contact of the first photonic component with the second photonic component.

With regards to **claims 27 and 29**, the first photonic component comprises an optical fiber.

With regards to **claim 28**, the second photonic component comprises a laser or photodiode or LED (optical semiconductor chip).

3. **Claims 3, 6, 13, 14, and 32** are rejected under 35 U.S.C. 102(e) as being anticipated by Rossi (US 2002/0037142).

Rossi shows a feature for positioning an optical fiber to a laser comprising:

a first photonic component (14,24), the first photonic component having a first housing (14), the first housing having a partially spherical surface for providing mechanical contact with the second component;

a layer of material (70) and

a second photonic component (12,40,36), the second photonic component having a second housing (12), the second housing having a contact surface, the contact surface for providing mechanical contact with the partially spherical surface along at least one circular contact line, whereby the feature enables the alignment and affixing of the first photonic component with the second photonic component while maintaining mechanical contact of the first photonic component with the second photonic component;

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wherein the second component is substantially symmetric with respect to at least one optical axis of the first photonic component.

wherein the contact surface is comprised within a cylindrical channel.

4. **Claims 9, 17, 18, 21, and 33** are rejected under 35 U.S.C. 102(b) as being anticipated by Monguzzi et al (US 5,095,517).

Monguzzi et al (Monguzzi hereinafter) show a feature for positioning an optical fiber to an optical component comprising:

a first photonic component (9a, 7a, 4), the first photonic component having a first housing (9a), the first housing having a partially spherical surface for providing mechanical contact with the second component; and

a second photonic component (10a), the second photonic component having a second housing (10a), the second housing having a contact surface, the contact surface for providing mechanical contact with the partially spherical surface along at least one circular contact line, whereby the feature enables the alignment and affixing of the first photonic component with the second photonic component while maintaining mechanical contact of the first photonic component with the second photonic component;

wherein the contact surface is comprised within a cone (column 5, lines 6+).

As for **claims 17 and 18**, please adhesive holes 21 and 22.

As for **claim 21**, please see figure 9.

5. **Claim 15** is rejected under 35 U.S.C. 102(b) as being anticipated by Ganev (US 4,997,254).

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Ganev shows a feature for positioning an optical fiber to an optical component comprising:

a first photonic component (1,3,8), the first photonic component having a first housing (5), the first housing having a partially spherical surface for providing mechanical contact with the second component; and

a second photonic component (14,2,4,20), the second photonic component having a second housing (20), the second housing having a contact surface, the contact surface for providing mechanical contact with the partially spherical surface along at least one circular contact line, whereby the feature enables the alignment and affixing of the first photonic component with the second photonic component while maintaining mechanical contact of the first photonic component with the second photonic component;

wherein the first housing has a thinned edge.

6. **Claim 20** is rejected under 35 U.S.C. 102(b) as being anticipated by Isaksson (US 5,447,605).

Isaksson shows a feature for positioning an optical fiber to an optical component comprising:

a first photonic component (6, 11, 12, 13), the first photonic component having a first housing (6), the first housing having a partially spherical surface for providing mechanical contact with the second component; and

a second photonic component (33,35,3,4,24), the second photonic component having a second housing (4), the second housing having a contact surface, the contact surface for providing mechanical contact with the partially spherical surface along at least one circular contact line, whereby the feature enables the alignment and affixing of the

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first photonic component with the second photonic component while maintaining mechanical contact of the first photonic component with the second photonic component; wherein second photonic component further comprises a plurality of photonic elements (26, 8).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 7, 8, and 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Rossi as applied to claims 1 and 6 above, and further in view of Baer et al (US 4,665,529).

Rossi shows all the limitations but does not show a niche. Baer et al show a niche formed in a cylinder by the use of a ring(52).

At the time of the invention, one of ordinary skill in the art would have used a ring in the cylinder of Rossi in order to contain the spherical photonic component of Rossi.

Papers related to this application may be submitted to Technology Center (TC) 2800 by facsimile transmission. Papers should be faxed to TC 2800 via the PTO Fax Center located in CP4-4C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Center number is 703-872-9306 for regular communications and for After Final communications.

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If the Applicant wishes to send a Fax dealing with either a Proposed Amendment or for discussion for a phone interview then the fax should:

a) Contain either the statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax Cover Sheet; and

b) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Hwa Lee whose telephone number is (571) 272-2419. The examiner can normally be reached on M-Th. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415.

A handwritten signature in black ink, appearing to read 'Andrew Lee', with a stylized flourish at the end.

Andrew Lee
Patent Examiner
Art Unit 2877

March 19, 2004/ahl